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ABSTRACT

Implications of the Open University upon traditional higher education in England and the United States are examined. The history of adult education is reviewed in relationship to working class adults, the Open University, and the traditional British and American higher education. The history of correspondence study and its practical use for instruction in the Open University are discussed, followed by a review of the history of broadcasting, its possible use as a tool for instruction in the homes of the working class, as well as its usefulness by the Open University. Some of the tenets of traditional higher education most likely to be affected by the Open University are considered. The concluding chapter summarizes the effects of the Open University. It is suggested that the American higher education system will adapt and adopt the ideas, methods, motives, and materials of the Open University as efforts are expanded to meet the academic needs of the working class adult. Footnotes and a bibliography are provided. (LC)

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IMPLICATIONS FOR CHANGE THAT THE BRITISH OPEN UNIVERSITY MAY HAVE UPON TRADITIONAL HIGHER EDUCATION ACTIVITIES

An Exploration Focused On The Basic Components, Their Relationships To The Establishment, And Some Of The Institutional Changes That May Have Influence Upon Future Higher Education In England And the United States.

by
Don McNeil

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PREFACE

The existance of the British Open University stimulated the formation of a number of questions that seemed worth explaining. The central thrust of this paper centers around the question of what are the salient implications of the Open University upon traditional higher education in England and the United States?

Since the Open University was created to serve the working class adult, some questions that seemed appropriate to the first chapter were as follows:

1. What does the history of adult education in the two countries reveal that might have significance insofar as working class adults, the Open University, and traditional higher education are concerned?
2. What does the concern for the academic education of working class adults seem to arise from?
3. What is there about academic adult education that would appear to require the creation of a new university in England? What are the implications for the United States?

The second chapter is about correspondence study and focuses on such questions as the following:

1. What does the history of correspondence study in the two countries indicate that might have significance insofar as bringing academic education to a working class adult population in England and the United States?

2. If correspondence study forms the main educational technique for instruction by the Open University, does this imply they have found a successful formula for its use?

The next chapter searches the history of broadcasting for those clues that might indicate attitudinal positions explaining the following:

1. What does the history of broadcasting in the two countries reveal that might have significance insofar as using radio and television as a delivery tool to extend academic education off campus and into the homes of the working class adult?
2. What does the history of broadcasting have to say about societies evolution of radio and television as an instrument with social implications and, specially, educational implications for higher education?
3. Does the use of instructional broadcasting by the Open University imply they have found a successful formula for its use?

In the fourth chapter, we ask just what is the British Open University, where did it come from, why was it created, and what are its outstanding features?

The following chapter is in response to the inquiry as to what are some of the tenets of traditional higher education most likely to be affected by the Open University?

In the concluding chapter the question is asked as to what forces are emanating from the Open University that may be most likely to result in change within higher education in England and the United States? What are some of the implications to a traditional university that is seriously considering applying what is possibly the most significant changes by the Open University to traditional higher education--the educational systems approach to education using a team of personnel to develop the curriculum? Does the Open University, as operated in England, have a place in American education? And, lastly, what factors would most affect its importation to the United States?

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CHAPTER I

Adult Education

The original purpose of the British Open University was that of being a university for the adult working classes. As this paper developes we will see that it is a merger of adult education with the traditional academic form of education.

What is adult education? Does it mean the same thing to everybody in the same country? Do England and the United States have similar attitudes toward adult education? If there are variations in attitudes toward adult education within a given country and between countries what are some of the more obvious implications?

The following two quotations about adult education and correspondence study are from a book edited by Lars-Olof Edstrom and were selected because they were so relevant to the above questions.

> To the uninitiated, it might appear that the term adult education is self-explanatory but to those brought up in the British tradition it has very definite undertones. It means generally non-examination classes for adults, the external work that universities do as one of their activities; words like 'culture' and terms like 'mindbroadening' are associated with it. Anything that is aimed at helping an adult to pass an examination or learn a skill is not 'adult education' but 'further education' and these activities are generally conducted by local authorities. Further education means adult education in the United States and most other parts of the world. Thus, since as a general rule universities have not undertaken such tasks as literacy teaching or fundamental education, both these tend to be considered as separate and distinct from, rather than part of, adult education. The expression

> 'mass education' is 'out,' quite definitely. A similar fate has overtaken the term 'popular education' and is in process of overtaking the term 'fundamental education'.[1]

> Another group of terms which impinge directly on adult education is that which includes the concepts of 'continuous,' 'continuing' or 'life-long' education. These concepts represent an attempt to move away from the traditional divisions into child and adult and toward a wider 'cradle-to-grave' approach. 'Adult educators' as a group were much more conscious of education as a life-long process than their colleagues in other educational fields. Yet they, too, suffered from vocational disability. They were concerned with adult education, with the education of adults, who, in many cases, had received a sound preparation for life in the traditional educational sense. 'Continuing education,' to the adult educator, was the continuation of education after formal schooling, after the 'preparation for life' period. They seldom stopped to consider the implications of life-long cradle-to-grave education in terms of a total educational system based on this concept. If they had, and some are beginning to do so, they would realize that life-long education is not 'continuing' education but 'continuous' education and that all aspects of education should be planned as a whole. Thus adult education becomes a co-ordinated part of continuous or life-long education.[2]

In America "no one definition of adult education has yet gained general acceptance."[3] The terms 'adult education' and 'continuing education' are becoming the more generally accepted and approved terms.[4]

> Because of past connotations, 'adult education' still implies remedial, Americanization and citizenship education to many people. Because 'continuing education' is less value-loaded and has the broader connotation of life-long learning, it may ultimately replace 'adult education'.[5]

This confusion of definition does, as John Lowe has written:

> . . .imply difficulties in the communication and

> expression of ideas, tending to make life very difficult for the field worker and administrator in adult education who not only has to familiarize himself with the changes but must also explain them to the decision-makers, among others.[6]

What about the attitude of society toward adult education? John Lowe, in his recent book, has this to say about the topic:

> The truth is that adult education, at any rate as traditionalists understand it, interests a small percentage of the population and receives scant consideration from the public authorities. There is widespread belief that it is inessential and that its provision can be left largely to voluntary effort. For many it still brings to mind a pre-war picture of earnest men and women plodding away at worthy but dreary subjects, designed to be either uplifting or educationally remedial. A large section of the population feels that education is one thing and real life is something else. When school is left behind, the book of learning is rudely closed and never reopened. Such people would perhaps like to think that life itself is the only true educator.[7]
>
> Probably no solution to the problem of terminology will be found until we discard the notion that adult education comprises only liberal studies and that recreation is not education at all. The continuing education of adults will have to be seen as a whole, of which vocational, non-vocational, general, formal, informal, liberal and recreational are constituent parts. No doubt a large section of the public will always think of adult education in terms of a familiar stereotype.[8]

This apparent state of confusion, which is not confined only to the United States and England, could not exist unless there were great pressures being exerted by a society seeking change in the current administration of adult education. What is probably evolving is a holistic view of education which in time, perhaps during the next century, will be accepted by all levels of our society.

If we accept the holistic view of adult education then we can suggest that it has always been with us. With the beginning of recorded history there begins to exist evidence of individuals and groups using other than formal education to learn so as to survive and hold their society together. Formal adult education, however, is a relatively new concept and can be dated from approximately 1800 in England and 1825 in America.[9]

Adults have basic needs which have required the development of similar educational programs in various countries at different times due to the degree or level of cultural progress in a given country. Formal education, interwoven and interdependent, has developed at different times with objectives of reaching the elementary children, high school and university students, and the adult population.[10]

Through the centuries educational opportunity has been restricted to the upper social-economic level of society. Opportunities for formal education on the part of the common man have progressed with extreme slowness. In Britain the impact of the industrial revolution created an awareness that the common man must be allowed access to schooling beyond that of the elementary level if the changing society was to function effectively. The old social order based upon land ownership dissolved through the nineteenth century to be replaced by one based on plant ownership and wealth derived from the new industries. People were drawn from the financially depressed rural areas to the cities to work in the factories. New skills were needed by these people if they were to have a place in a society rapidly changing over from a rural to a city/factory orientation.[11]

The Mechanics' Institute movement began in 1799 to satisfy a need for knowledge by the new working class.[12] It had been imported from England in 1824 and adapted to the needs of the American workers.[13] Natural history, botany, political economy, geology, architecture, and astronomy are examples of some of the subjects taught with the objective of enriching the workers' lives. The idea spread to most of the large cities of the United States during the nineteenth century and became important for the working class.[14]

In England there were additional developments as the century passed. In 1842 a People's College was begun to provide "general education of humane character for working men who have need of higher education." A group of Christian Socialists founded the London Working Men's College (1854) with similar objectives, but with the added goal of providing a ladder by which their graduates could go on to Oxford and Cambridge. Unfortunately, Oxford and Cambridge had no interest in working with the new college in any way.[15] However, they were to react to the growing recognition of the need to extend education to adults, but in very different ways.

The Cambridge approach was to promote the concept of serious, carefully planned study. Oxford, however, was concerned with "the idea of the stimulation of intellectual life at numerous levels of adult development"[16] through the use of extension lectures.

A need for more continuous and interrelated study became evident because the sole use of extension lectures were not accomplishing the stated objective. This need led to the founding of Toynbee Hall in 1883 which was significant in that it symbolized a new recognition of university responsibility for the education of adults.[17]

It is interesting to note that "the phrase 'University Extension' seems to have become current in the discussions on University reform during the years immediately preceding 1850."[18] This is significant, then as now, in that it illustrates how institutions will respond to an accumulation of social pressure for change.

Of considerable interest is the Birkbeck College adult degree program about which Cyril Houle has written the following paragraphs:

> After a long independent career, often marked by vicissitudes, the institution was suggested by the Haldane Commission in 1913 as the instrument by which the University of London could best carry out what the Commission regarded as the very necessary function of providing university instruction for part-time students. The Commission was wholehearted in its support of the idea. It argued that 'in a city of the size of London there is a number

> of men and women rather older than the average student, with a keen desire for learning, whose circumstances prevent them from devoting their whole day to study, and for whose needs the University should make provision. They will need great patience and strength of purpose, if they are to receive from evening study the same kind of training that the full-time student receives. At best they will lose something which those who are more fortunate will get. But while they may suffer from the pressure of material cares, we are assured that they gain immensely from their zeal, their experience of life, and the maturity of their intellectual development'.[19]
>
> Nor did the Commission believe that restricted provisions would suffice for part-time students; 'We believe the attempt to give them an education as good as that offered by the University to its day students is well worth making. It is an experiment that has never yet been carried out consistently, and one that must prove more expensive than provision for work of the same character in the daytime, but we think the University of the metropolis should undertake it. The chief teachers engaged in this work should do no class teaching in the daytime; they should have the same qualifications as the other professors of the University; like University teachers they should be appointed by the University; they should receive the same salaries, and have the use of libraries and laboratories as well equipped as those available for day teaching. It is of the greatest importance that the laboratories, and especially those for more advanced work, should be reserved exclusively for evening students, so that apparatus they have set up should not be shifted or disarranged to make room for day students. This arrangement will be relatively more costly than day instruction, for the laboratories and apparatus will for the most part not be available in the daytime; but if evening students are really to be given the same advantages as those provided for the ordinary day students, it is necessary'.[20]

In 1920 Birkbeck College was made a school of the university and in 1926 was incorporated by royal charter.[21] The isolation which accompanies his College's uniqueness was the subject of the following comments by the master of Birkbeck in 1967.

> We know very well, he said, that we have yet to convince the other universities that this is a good formula and meets an important public need. There are no other Birkbecks, and part-time degree studies are not in the front line of advance anywhere, to our knowledge. We are, he said, frank propagandists, and should be offended if anyone thought that we maintained judicial impartiality about the questions discussed. We believe that Birkbeck's answer to these questions -- how to give mature, working students a university education -- is the best answer available, though it is not often imitated. We talk about the Birkbeck 'faith,' because we can offer no empirical proof that the answer is the best. The faith is simply this: that mature, part-time students are fully capable of degree work as demanding as that faced by school-leavers; that they need, within the university, their own college, where they are the real cocks of the walk; that their college needs its own specialist academic staff, which must be at least as good as at any other college; that this implies a high level of research and post-graduate training, for which the mature student is in any case well suited; and that the curriculum, though founded on the solid core of established disciplines, must also be venturesome and experimental, willing to reach out into new areas of development.[22]

The instructional patterns of the college appear to be very similar to those of the typical English university. When compared with the adult-degree programs in American universities there is much about its history and objectives that make it very similar. However, "the institution has a power and authority transcending anything yet achieved in the United States."[23]

The Birkbeck College program appears to be the first such example of the institutionalization of adult education within higher education. Moreover, though there is no know evidence to support a historical, sequential, foundational relationship between the British Open University and the Birkbeck College concept, it does seem reasonable to conjecture that it does exist.

In America the landmark formal adult education services were the Lyceum movement (1826), Mechanics' Institutes, and Chautauqua (1874) which were all organized to provide for the intellectual needs of the working man. The latter organization offered one of the earliest (1878) correspondence study programs in the United States and was under the guidance of William Rainey Harper, then professor of Hebrew at Yale.[23] Later (1883) a program was added that made it possible to obtain a diploma by correspondence study. When Harper became President of the University of Chicago (1892) he was to be precedent setting when he established a model university extension division with correspondence study as one of its services.[24]

The University of Wisconsin was to become the prototype (1902) for programs of adult education and public services. However, a decline of interest was to occur followed by a revival in 1906 of such significance that it affected universities all over the country. Large numbers of state universities moved into adult education with fresh vigor offering programs that were borrowed from the Chautauqua movements.[25]

By 1920 the Chautauqua movement undoubtedly influenced the development of programs sponsored by organizations like museums, recreations centers, libraries, social service agencies, evening schools, summer schools, correspondence instruction, junior colleges, and community lecture series. Gradually, over a period beginning approximately in the 1850's, society has accepted the responsibility of supporting most of these institutions thereby making them a permanent part of our culture.

The Wisconsin extension division beginning in 1906 included the following:

> . . .correspondence teaching, lecture services, summer schools, extension classes, press and publication services, evening school and residential activities, library lending services, visual-aid services, and conferences, institutes, and short courses.[26]

Thus, the kinds of services that we now associate with the British Open University were all operative by 1906. However, the technical innovations known as radio and television, possessing the capability for the instantaneous delivery of educational programs, had yet to be developed and made operational. Too, the times would have to be 'right' for society to politically support a large scale commitment to a non-traditional formalization of adult education. For the English the 'right' time to make such a move was to be in the decade of the 1960's.

It is apparent from the preceding information that England and America have very similar attitudes toward adult education. It is equally clear that the British Open University is directed toward the institutionalization of the portion of adult education that is labeled as the academic education of adults. The academic education of adults refers to education conducted by an academic institution. It is generally agreed that education for adults so labeled implies a kind of education which carries with it the certification of credit that can be applied toward a degree granting program.

What the British Open University seems to have done is to take the Birkbeck 'faith' and through the use of distance teaching methods extend the opportunity of higher education to all adults within its range of service. Those adults now are in a position of attaining all course credits in a systematic and cumulative way via distance teaching that leads to a recognized undergraduate degree.

CHAPTER II

Correspondence Study

The British Open University is, as we have noted, a mix of educational services. The correspondence or homestudy part of the amalgam counts for about 90 per cent of the total concept. Let us now take a brief look at how, where, and when correspondence study began and become aware of some of the attitudes that coexist toward this method of instruction. As these attitudes become apparent it may suggest a paradox in that this instructional technique which is commercially of world-wide scope plays but a relatively minor role in higher education should now be used by the British Open University as its major educational delivery system. The British Open University is one of the largest educational institutions in England with approximately 40,000 students and, because "it would make sound economic sense, may well grow to an upper limit of 60,000 students;"[27] thus, it will be that country's largest university.

The Mr. Pitman of shorthand fame is given credit as the inventor of correspondence study; he began tutoring students by postcards about 1840. However, the modern form of correspondence study can be traced to the last three decades of the nineteenth century. The original correspondence schools and colleges were based upon one subject, but the rapid growth in pupils stimulated the commercialization of the idea resulting in a broad expansion of course offerings.[28]

Though correspondence instruction first was offered in England it was not developed by either commercial firms or by universities within the extension education movement. Rather, it was due to efforts of Americans that correspondence study established itself. The Chautauqua Institution and the establishment of private correspondence schools, such as the International Correspondence School of Scranton, Pennsylvania, did much to further the spread of the method.[29]

A thoughtful analysis of correspondence study as a teaching method was done by William Rainey Harper, who wrote the following:

> Writing of the correspondence problem as it faced the Chautauqua, Harper asked four questions:
> 1. What is the correspondence system of teaching?
> 2. What are its disadvantages as compared to oral teaching?
> 3. What are its advantages?
> 4. What results are accomplished?
>
> The system, said Harper, had three indispensable pedagogical tools: the instruction sheet telling the student what he was to do; the examination paper designed to ferret out what the student had learned; and the recitation paper in which the student gave his answers to the questions asked on the examination paper and in his turn asked of the instructor any questions which may have occurred to him. The student, of course, had obtained the required books for his course as well as The Chautauquan magazine, which contained up to 50 per cent of the whole body of material to be studied. What he missed, as compared to the student in the classroom was the personal 'magnetism' of the teacher, the incidental help offered by the teacher under classroom conditions, the advantages of the greater frequency of oral recitations, and the ease of reciting by voice rather than in writing. However, Harper went on, some of these alleged advantages of classroom work were very dubious. The magnetic teacher, he realistically observed, was fairly uncommon; orally presented

> lessons were ordinarily far less carefully planned than written ones; the incidental help offered students was often capriciously distributed; frequent attendance at oral recitations was advantageous only to those called on regularly -- ordinarily not all the members of the class -- and a single written recitation was therefore often equivalent to three or four oral classes; writing out answers, instead of reciting them orally, cultivated the habit of exact statement, demanded greater precision of knowledge, required the student to 'recite' all of every lesson, and thus required more study. Nevertheless, while plainly putting a firm finger on all the positive values he could discover, Harper still had to concede that correspondence was but a substitute for classroom study -- that the face-to-face relationship was best after all.[30]

Correspondence education, as we have noted, was first installed at the University of Chicago in 1892 where it met with success and was, in time, copied by many of the universities of the United States. By the last decade of the nineteenth century it had spread back to England where the method was rapidly developed by commercial schools.

Though the university extension programs in England and America were early practitioners of correspondence study there were attitudinal factors based on long established concepts of what a formal education must be which limited the use of the method by the institutions of higher learning. Instead, it is in the commercial sector where correspondence education not only developed but thrived in the United States. The vigorous development of commercial schools in America provided the impetus necessary to stimulate a similar growth in England.

Despite the real vigor of this aspect of adult education there is an established record within the universities of administrative indifference and faculty neglect of correspondence study as a way of instruction.[31] Too, this method of instruction is at the bottom of the academic pecking pole. Perhaps this point can be better made by establishing that it is usually an administrative unit within the extension division which, itself, brings up the bottom of the academic social scale; so, at the bottom of the bottom we have correspondence study.[32]

The question of academic status is important as it places in perspective the financial poverty of the programs and the limited use of correspondence study by higher education.

Many segments of the general public and of professional educators share a belief that sitting in a formal classroom for some set period of time is the only way learning takes place. Thus, because of this definition of what constitutes learning we have a downgrading of knowledge and ability unless it rests on the foundation of residence study. A college degree backed by a high school diploma takes on, in the minds of many, an importance that overshadows the real ability of a person to do the job; that it, it's the process that counts rather than the objectives gained.[33]

If home study is a stepchild of formal education and if it is ignored even by the colleges of education,[34] perhaps it is important to consider some of the factors that can be identified which when taken as a whole contribute to the academic status of correspondence education.

To the onlooker home study appears to be a boring business. For instance, once an exciting idea is ready to be developed the expenditure of an enormous amount of time and work is needed to translate the idea into a usable course. And, when the course is completed who do the creators get to show it off to? Nobody![35]

A second factor contributing to the low academic status of correspondence study is that it is an old idea--over thirteen decades old, to be exact. Still another factor is that it is a complex and cumbersome medium with a high initial development cost. High cost has, in fact, worked against correspondence study as an area for experimentation. A fourth factor is, as was noted earlier, the insistance, openly or implicitly, by university scholars and administrators that the classroom is the only place that learning can occur. And lastly, the low prestige and poor working conditions associated with correspondence study that inhibit creativity and draw few course developers of top ability in to the field. Operationally university correspondence study administrative units tend to be too small to require or attract full-time professional directors. Moreover, teaching responsibility is usually lodged in the academic departments. Even the extension administrators tend to give only minimal support to the area; even going so far as deliberately seeking out noncreative types to run the correspondence study office. Thus a cycle of non-support is established and perpetuated by those involved. However, this is not to suggest that there are not universities with excellent programs due to the support of faculty leaders on their campuses.[36]

Mickey McCleery, in a report for the University of Hawaii on correspondence study in an open university, contributed the following insightful paragraphs regarding the academic integrity of correspondence study and the paradoxical attitude of faculty as follows:

> Correspondence study departments are seriously constrained by the task of gaining faculty cooperation and recognition for students who are demonstrably identical to the campus population in ability and performance. Such grudging acceptance as is gained must be earned by a rigid, often inappropriate, imitation of traditional classroom practice. Unimpeachable research evidence that correspondence students do as well or better than others on every academic measure of achievement does not dispel faculty suspicion of any learning over which they do not preside directly.[37]
>
> Even those faculty members who have taught extension courses and approve some amount of nonresidential work as desireable,balk at the idea of a full degree program by that means. Their reservation seems to rest on two ill-articulated positions. The first is a sense that some undefined or unmeasurable values attend the campus experience and what happens--in stimulation or social contact--between classes may be as important as what occurs within them. The second objection involves the idea that the students who enroll for correspondence work lack some resources of success that a degree signifies, no matter how strong that method or their test performance may be. Whether such attitudes are valid or not, their existence in a faculty and perception by the public are facts with which a correspondence program must contend. Those

> attitudes alone would provide significant reason for making correspondence study just one element among several in a program leading to a degree.[38]

The correspondence study offered by the Open University is essentially the same as any quality home study courses available in the United States. However, a dropout rate of 20 to 25 per cent of the first year students in the Open University does suggest that the organizers of the institution have created an environment conducive to the successful use of correspondence education. Here are three reasons that seem to assist in explaining the situation: the first is that the end product of the accumulation of a prescribed program of courses is an undergraduate degree. There is no other institution of higher education in either England or the United States that will grant a degree solely upon correspondence study. This would imply that the degree earning incentive is conducive to a modest dropout rate when using home study as a major component of an educational program. A second reason is the recognition of the frustration and the difficulty of the students task created by working in isolation and added to by having to wait a week or more for answers to come back through the mail. To offset this isolation there are more than 250 local study centers where students receive counseling, meet with tutors, and view or listen to any of the instructional broadcasts they may have missed. Students are encouraged to use the phone in seeking advice from their tutor. The week long compulsory summer schools assist in encouraging a sense of belonging and discouraging the sense of isolation so characteristic of home study. A third reason is that all students must start their course work on the same day and complete their studies on a mutual ending date.

The statistics of correspondence study are not readily obtainable. The commercial schools have tended not to be concerned with the accumulation of data nor are they willing to release what they do have for study purposes. What information that is available from the commercial schools, the United States Armed Forces Institute, and the universities offering home study support a suggested dropout or non-completion rate of around 80 per cent. Thus, the 20 to 25 per cent dropout rate of the Open University seems to suggest that their home study is being managed in a different way from the traditional way it has been handled in the past. The British Open University does seem to have hit upon a formula that deserves the serious attention of distance teaching advocates not only in England and the United States, but throughout the world.

CHAPTER III

Instructional Broadcasting

SECTION A. UNITED STATES

Part 1. Radio

Instructional broadcasting accounts for about 10 per cent of the information delivery systems that comprise the British Open University. Instructional broadcasting, of course, has its foundations in the earlier development of commercial radio and television. Let us now, as we did with correspondence study, take a brief look at how, where, and when instructional broadcasting began and attempt to become aware of some of the attitudes that coexist regarding broadcasting as a method of instruction. As these attitudes become more apparent it may suggest a paradox as it did with correspondence study. Instructional broadcasting, which is commercially of world-wide scope, plays but a relatively minor role in higher education. Why should it now be used by the British Open University as an integral part of its educational information delivery system?

The most important contributors to early broadcasting were James C. Maxwell, who drew up the theory of electromagnetism, in 1864; Thomas Edison, who utilized electromagnetism by providing wireless communication between railway stations and moving trains, in 1884; and Heinrich Hertz, who, in 1887, showed that rapid variations in electric current could be projected into space in the form of radio waves.

It is this latter work upon which modern radio is based.[39]

> The internationalism of the inventive process in wireless history was the necessary prelude to the nationalism which has expressed itself in the creation of broadcasting institutions. The initial internationalism was expressed quite simply in the varied nationalities of the leading inventors.[40]
>
> In 1895, Gugliemo Marconi transmitted a signal over a distance of 1,000 feet across the Bolognese estate of his father, and subsequently was officially credited with the invention of radio. At first, the Marconi 'wireless' was confined to telegraphic code.[41]

Asa Briggs, in his book, The History of Broadcasting in the United Kingdom, has this insightful comment to make on the genius of the inventor of radio:

> Marconi had two indispensable and exceptional qualities which enabled him to be labeled as the inventor of radio. First, he could see the technical relevance of other people's work as well as his own. He freely admitted that he did not so much invent as adapt the work of others to a specific purpose. Second, he could see business openings where many other radio pioneers had seen only intricate and fascinating laboratory problems.[42]

He believed that England, with its large merchant marine, would be a profitable market for his work. He was, after all, a man driven by powerful and compelling economic incentives. Because of this Marconi moved to London in 1896.[43] By the turn of the century he had conducted the first successful transatlantic tests.[44]

Interestingly, it was an American, R.A. Fessenden of the University of Pittsburgh, who is credited (1902) with first sending the human voice via wireless waves. Four years later (1906) he made the first broadcast in history -- transmitting both speech and music over a distance of hundreds of miles.[45]

Radio broadcasting as it is known today was greatly improved by the inventions and technological improvements of John A. Fleming, who invented the vacuum tube in 1904, and by R.A. Fessenden and Dr. Lee DeForest, who refined Fleming's invention in 1906. With the coming of the vacuum tube more powerful radio waves could be generated, thus signals could be transmitted over greater distances. In 1908 DeForest broadcasted recorded music from the top of the Eiffel Tower. This musical broadcast, which could be heard 500 miled away, amply demonstrated the importance of the vacuum tube.[46]

In 1906 David Sarnoff, who was then fifteen years old, was hired as an office boy by the Marconi Wireless Telegraph Company of America. In time he would become a commanding figure in American broadcasting. His counterpart in England was J.C.W. Reith, who would be the first director of the British Broadcasting Company. The inventors of radio equipment would gradually step aside as the organizers of the new medium gradually made their presence felt.[47]

During the time period from 1897 to 1919 there was a struggle by private enterprise for the control of radio. Initially the British Marconi Company controlled all of Marconi's patents (1897). In the United States most American wireless communication was controlled by American Marconi, Inc. (1899). It was a subsidiary of the British Marconi Company and was soon in control of all American commercial wireless communications which were then limited to ship-to-shore transmissions and special point-to-point broadcasts. Other American pioneers who joined in the early struggle to cut in on the broadcasting business were General Electric, Westinghouse, and Western Electric (AT&T).

These companies won several important radio patents and began to manufacture radio equipment. A confused patent situation developed which brought almost all manufacturing to a halt. Each manufacturer needed patents controlled by his competition resulting in a tangle that was unresolved when the government took over all wireless stations upon the entry of the United States into World War I in 1917. However, when the war came to an end, General Electric developed a plan by which a new company controlled entirely by American capital and holding the major radio patents would be organized.[48]

In 1919 the Radio Corporation of America (RCA) bought out all patents and assets of American Marconi and, through cross-licensing agreements with the other companies, took a commanding position in the American radio field. In effect it would be the old American Marconi Company in a revised corporate form, with major ownership and dominant control vested in General Electric. In all the negotiations between RCA and GE, not a word was said about broadcasting; even at the end of 1919 its business potential was underrated or ignored. The exception, however, was RCA's commercial manager, David Sarnoff.[49] The objective of RCA, Westinghouse, and Western Electric was the manufacture of equipment. The time had not yet come for commercial broadcasting and radio receivers in every home.

Does the use of the word "wireless" have any implications? Marshall McLuhan thinks so and offers the following view:

> The history of radio is instructive as an indicator of the bias and blindness induced in any society by pre-existant technology. The word 'wireless' still used for radio in Britain, is exactly the negative 'horseless carriage' attitude toward a new form. Early wireless was regarded as a form of telegraph and not seen in relation to the telephone.[50]

Even after broadcasting had been in existence for some years, there was no commercial interest in it. It was the amateur operators or hams and their fans, whose petitions finally got some action in favor of the setting up of facilities.[51]

In 1915, David Sarnoff had sent a memo to the director of the American Marconi Company, which employed him, advocating the idea of a music box in the home. It was ignored.[52]

But why was the idea ignored? Giraud Chester has this to say:

> It was ignored because the early development of radio centered around the perfection of point-to-point broadcasting as a substitute for the transmission by cable or telephone lines. The main commercial criticism of radio was its lack of secrecy, making it unsuitable for private service since unauthorized persons could overhear a broadcast conversation. How then, it was asked, could this invention be turned into a money-making prop-

> osition? Efforts were directed toward developing radio as a confidential means of radio-telephony with controls against eavesdroppers.[53]

Credit for first realizing the now obvious fact that radio's lack of secrecy is its great commercial strength can be shared, to some extent, between the great inventor Nikola Tesla (1904),[54] Lee DeForest (1909),[55] Charles Steinmetz (1914),[56] and David Sarnoff (1915). "However, it was the latter who was the first to think it through to a concrete conclusion and to set it forth in the language of actuality."[57] Is it any wonder, then, that the administrators who read the memo reacted, "in wide-eyed amazement, the Music Box idea seemed (in the context of the times) more than a bit hair-brained. Interesting, but fantastic."[58]

> By 1920 there were only a few individuals, beside Sarnoff, who shared the grasp of radio's real future. At the University of Wisconsin, an experimental station (later called WHA) operated by the University's Physics Department broadcast weather and market reports. Will E. Scripps, of the Detroit News, also appreciated the real virtues of broadcasting and started his experimental station, now WWJ, in the summer of 1920. In Pittsburgh, H.P. Davis, a Westinghouse vice-president, and Dr. Frank Conrad, a research engineer, opened the first commercially licensed radio station, KDKA, in November 1920, broadcasting the returns of the Harding-Cox Presidential election as its first program.[59]

What happened when radio did catch the attention of the Americans? Giraud Chester has this to say:

> The new idea of radio as a public broadcast medium caught the imagination of the American people and spread like wildfire. From three stations in 1920, the number rose to over five hundred in 1923, and the sales of radio receivers rose from two million

> to one hundred thirty-six million in the same three-year period.[60]

> Many of these stations were owned and operated by concerns primarily interested in manufacturing and selling radio apparatus. These companies engaged in broadcasting for an obvious reason: unless there were stations to send out programs, the business of selling radio receivers would face collapse. The profit in radio had to be made on the sale of the radio set while the broadcast program had to be supported to the listener without charge.[61]

The birth of the idea of selling radio time for advertising messages, which is the foundation stone of modern commercial broadcasting, came about through WEAF (now WNBC), the high-powered AT&T station in New York City.

> The first sponsored program occurred on August 28, 1922, when WEAF broadcast a ten-minute talk delivered under the auspices of the Queensboro Corporation, a Long Island realty company.[62]

> However, it was not until April 18, 1924, when AT&T allowed independent stations to engage in sponsored broadcasting, that widespread advertising support for radio developed, and the system we know today began to take shape.[63]

> With this advertising money, it became possible to hire high priced entertainers to put on top-notch comedy, variety, and musical programs. Radio became 'show business'.[64]

For American broadcasting advertising was to become one foundation stone and the establishment of the national networks the other. The use of land lines to link two or more stations to carry the same program simultaneously became an essential aspect of the science, business, and art of radio.[65]

The listeners wanted to hear the "finished" programs from New York and other talent centers.[66]

> Too, single stations could not afford to produce elaborate shows to be transmitted to the audience in only one community. Independent broadcasters wished not only to please their listeners but also to claim a share in the national advertiser's dollar.[67]

"Advertisers with regionally or nationally marketed products wanted to launch their promotional campaigns simultaneously throughout the country."[68] "The networks themselves naturally worked to expand that dollar by putting themselves in position to offer more and more stations."[69] "All of these desires combined to form the basis for the establishment of the national radio networks."[70]

The large national networks established were American Telephone and Telegraph (1923-1926); Mutual Broadcasting System (1934); and Columbia Broadcasting System (1927). The National Broadcasting System (1926), was composed of the Red Network (1926-1943) and the Blue Network (1926-1943). The Blue Network was sold in 1943 and became the American Broadcasting Company (1945). Too, NBC dropped the use of the Red Network name.[71]

The cornerstone government regulations had the objective of establishing order to the use of the airways. These key governmental acts toward radio policy are as follows: Radio Act of 1912, Radio Act of 1927, Federal Radio Commission of December 18, 1929, Communications Act of 1934 establishing the Federal Communications Commission, and the F.C.C. requirement specifying public responsibilities of stations in 1946.[72]

Broadcasting is under some rigid constraints; there is the scarcity of AM frequencies and, as a result, there is a need to establish radio stations in some fair relationship to the distribution of population; among big cities, smaller cities, towns, and rural areas. A lack of regulations led to an anarchy of the airways with radio pirates using the assigned frequencies of responsible broadcasters and listeners turning on their radio sets being greeted by a melee of sounds from overlapping stations. Government regulation (1927-1934) brought this period (1920-1927) to an end making it possible for radio to move forward (1927-1948) with its programing and to demonstrate the full artistic, communicative, and business capabilities of the broadcast medium.[73]

AM radio flourished until 1949. The World War II years had been specially prosperous since the 950 AM stations then in existence enjoyed a lush advertising market protected from new competition by the government's refusal to license new stations for the duration.[74]

When the war ended in 1945, the F.C.C. began licensing for new stations. Attracted by the industries wartime profits growth was rapid so that by 1949 there were 1,900 AM stations on the air.

In that year the nation's economy suffered a temporary setback and the inroads from television were first beginning to be felt by AM radio. The network advertisers were shifting their accounts to television as radio lost audiences and revenues to the competitive inroads of the new medium.[75] Virtually all radio network drama, comedy, musical, and suspense shows were dropped within the few years between 1948 and 1955 as the sponsors switched at much higher cost to similar programs on television for larger audiences with a presumption of stronger impact on the viewer.[76] The declines continued throughout the Fifties and there were strong indications that the national radio networks might not survive.[77]

As the decade of the Sixties began, all indications were that the future of AM radio would be very bright. New applications were pending that would increase the number of operating stations well past the 4,000 mark by the end of the decade. Too, it became evident that network radio would survive though its programming patterns were to be severely altered by television. Radio lost the 'peak' evening audiences to television, forcing a period of intensive self-study from which emerged the following: an emphasis on news and music, the development of popular disc jockeys, and the flexibility of attracting advertisers who could not afford television; a format which kept costs in line with decreased revenues. Even so, the radio industry claims that the number of people who listen to radio in any usual week will be equal to or exceed the number who watch television.[78]

It is interesting to note that the decline of the radio networks during the rise of television was not shared by radio on the local level. Changes were brought about, as a result of television, in programing patterns and in the time of day that radio could expect its largest audiences.[79]

FM radio provided additional means by which radio could expand its audience. Developed into an operational concept (1938) by Major E.H. Armstrong of Columbia University the Federal Communication Commission authorized commercial operation in 1941, but the war held back further development until 1945 when the Commission shifted FM to its present frequency band and gave it the go-ahead.[80] FM broadcasting found sharply increased audience favor in the 1960's and by 1970 there were 2471 FM stations on the air. Radio sets were everywhere -- an estimated 303,400,000 of them in homes, cars, and coat pockets.[81]

FM radio, though it has advantages over AM radio, does have its range limited to the line of sight from the top of the transmitter. Among its advantages are that it is ordinarily free from static, fading, interference noises, and all stations within reception range come in with equal strength. Too, the sound is transmitted with much greater fidelity than over AM, and its limitation in coverage makes it possible for many FM stations situated not very far apart geographically to share the same frequency.[82]

> In order to help FM stations commercially and to make for more efficient utilization of FM frequencies the Federal Communications Commission authorized in 1961 those services that are made possible through the multiplex system of broadcasting. This system involves the transmission on a broadcast frequency of a second program which can be received only by individuals and organizations having the necessary multiplexing receiving equipment. Multiplexing has also made stereo broadcasting possible; for, by using this system the two signals needed to complete a stereo effect can be broadcast on the same frequency.[83]

Some additional utilization of radio are as follows: citizen band activity, "ham" operations, industrial and military applications, public service protection as used by Police and Fire Departments, emergency broadcasting system and educational broadcasting in schools, universities, and non-profit organizations.

Part 2. Educational Radio

For nearly half a century educational radio has been part of the American scene. It is the story of a series of battles beginning with the struggle for AM channels, which was lost to the Federal Communications Commission in 1935; however, the survivors who had become organized and aware of how to mount an effective campaign did gain victory from the Federal Communications Commission in 1945.[84] With this action forming a definitive precedent the battle continued, but now centered on non-commercial educational television resulting in the Federal Communications Commission reserving 242 specific channels; including 80 in VHF and 162 in UHF in 1952.[85]

The first university station in the country was the University of Wisconsin's "WHA" in 1919; an outgrowth of their experimental "9XN" of 1917. By 1924 there were 85 educational and 448 commercial stations and by 1936 the number of educational stations had grown to 202. However, the establishment of the Federal Communications Commission in 1934 led to a review of all licensed stations, commercial and non-commercial; the direct result was the expiration, transferring, or revoking of 164 educational radio station licenses.[86]

Commercial broadcasting expanded rapidly during this time and soon filled all vacant radio channels. By 1951 there were 37 noncommercial educational AM stations[87] and over the next nineteen years there was a continuing decrease so that in 1970 only 20 of these stations had survived.[88]

The reservation in 1945 by the Federal Communications Commission of part of the FM spectrum for education made possible the revival of educational radio. In 1951 there were 81 FM educational stations out of a total of 2,200 FM outlets and ten years later there were 170 educational FM stations.[89] "By 1970 two out of every three radio stations were AM stations -- 4,269 in all. Of the 2,471 FM stations, 2,080 were commercial and 391 noncommercial."[90]

The high mortality of early AM educational radio can be explained as follows:

1. Most of the early licenses granted to educational stations were assigned to the electrical engineering departments of the institutions concerned, for the purpose of experimentation. Not many of these early licenses were concerned with, or even aware of, the educational potential of the new medium. Therefore, in many instances, after the early flurry of experimentation had passed, the licenses were permitted to expire.[91]

2. A broadbased lack of support by the faculties and administrations of the universities.[92]

3. In general the universities were committed to the financing of traditional educational concepts and if they didn't have extra funds prior to 1929,

> they certainly didn't thereafter.[93]
>
> 4. Commercial broadcasting absorbed available channels so rapidly that by the time those universities who became convinced of the value of radio and wanted to become active found that there was no room for them in AM radio.[94]
>
> 5. The Federal Radio Commission in 1929 and its successor, the Federal Communications Commission of 1934 were clearly antagonistic toward educational radio and remained so until the early 1940's.[95]
>
> When it became obvious that educational radio stations were being forced to suspend operations, some influential committees and organizations were established for the purpose of supporting and promoting the cause of educational radio.[96]

Of special importance during this time period was the formation of the Association of College and University Broadcasting Stations in 1925 and the National Committee on Education by Radio (NCER) in 1931.[97]

> Unfortunately, however, an era of controversy began when a growing antagonism arose between groups of educators and between educators and commercial broadcasters. In time the conflict was temporarily resolved or forced underground by the reconstitution of ACUBS under a new name, and with a broader membership.[98]

In 1934 it became the National Association of Educational Broadcasters (NAEB).[99]

Paul Saettler, in his article "Historical Overview of Audio-Visual Communication," sums up this time period as follows:

> The real growth of radio education occurred during the developmental period (1928-1941). Local, regional, national, and international schools of the air were established, meetings were held, institutes were formed, scientific radio research was initiated, and formal courses

> in radio education began to be offered by educational institutions of higher learning. Also, during this period the Board of Educationed owned radio station, state-wide school broadcasting, and educational FM stations were developed.[100]

The progressive force in NAEB early saw that if they were to make a stronger showing in the use of FM reservations they would need to do the following:

1. Have the services of permanent legal counsel for its dealings with Federal agencies.
2. Establish a national headquarters with a full-time executive.
3. Develop a network of program exchange.
4. Press forward in the direction of television channel reservations for educational purposes.

The impetus necessary to furnish the activity leading to the achievement of these goals was accomplished by the efforts of Dean Wilbur Schramm of the Institute of Communications Research at the University of Illinois who organized residential seminars in the summers of 1949 and 1950 on educational broadcasting at Allerton House, the University's conference center.[101] In addition to providing the necessary impetus to accomplishing these goals the seminars also "made educational broadcasting into a unified force -- and educational broadcasters as well."[102]

The National Educational Radio Network began operating as a direct result of the Allerton House seminars and has played a vital role in the development of instructional radio in the United States. A project of the NAEB, this network regularly selects and distributes outstanding instructional radio series produced by member stations.[103]

However, with the coming of television, the 1950's were to be years of retrenchment and of survival in the universities for educational radio; only with the coming of the 1960's was there to be any resurgence of interest. During the 1950's educational broadcasting specialists turned away from radio and concentrated on the media of television. The exodus of people, of money, and of creative forces not only reduced radio to a marginal existence, but saw some stations close down.[104]

Harry Skornia has this to say regarding the importance of the foundations to the story of educational broadcasting:

> Without the support of the Payne Fund, the Rockefeller Foundation, the W.K. Kellogg Foundation, and the now defunct Fund for Adult Education, which operated on funds from the Ford Foundation, there would today probably be no educational broadcasting in the United States deserving of attention -- if indeed there would be any at all.[105]

Part 3. Television

Radio had paved the way for the commercialization of the newest media, television. Like radio, television is based on electronic discoveries of the late 19th century and early 20th century.

A potentially confusing detail of TV is that it uses two different technologies for transmission; one for the picture and FM for the audio.

Some important innovations in the transmittal of pictures and their reception by wireless was the invention in 1884 by Paul Nipkow of a scanning disc for transmitting pictures; the work of Charles F. Jenkins in 1890 and E.E. Fournier d'Albe in the 1900's; and the invention of the iconoscope camera tube by Vladimir Zworkin in 1923.[106]

Experimentation continued throughout the 1920's and the 1930's. In 1928 WGY of Schenectady, N.Y. broadcast the first TV drama; by 1937 there were 17 experimental TV stations in operation. Some other high points were Franklin D. Roosevelt, the first President on TV in 1939; the first major league baseball game, college football game, and professional boxing match in 1934; pioneer laying of coaxial cable for long-distance relay in 1940; the first President's message to Congress by Truman in 1950; the first debate by presidential candidates in 1960 between Kennedy and Nixon; and the first presidential message to Congress in color by President Johnson in 1966.[107]

The FCC in 1941 authorized commercial television broadcasting; however, the Commission placed a wartime freeze on the licensing of new stations. Among the six stations on the air at that time were NBC's WNBT in New York -- the first commercially licensed station -- and WCBS-TV also of the same city. Thus, from the beginning of commercial television two of the major radio networks were involved in television broadcasting.[108]

With the close of the war in 1945 the new industry began to develop and by 1948 it could be said that television was an important addition to the mass media. During these three years RCA brought into the market the image-orthicon camera tube, AT&T were laying coaxial cables which would be superceded by microwave relay for coast-to-coast transmission (1951), the number of stations increased to 41, twenty-three cities had television, and the wiring of the nation with coaxial cable and network programing stirred the nation much like the establishment of the telegraph had one hundred years ago.[109]

Though the FCC was to put a freeze on new station authorizations from 1948 through 1952 they, nevertheless, continued to allocate on a selective basis new stations; 35 in 1949, 47 in 1950, 9 in 1951, 1 in 1952, and 12 in 1953.[110] The purpose of the freeze was to develop a frequency allocation plan and to develop a policy for color TV. On April 14, 1952, the FCC allocated UHF channels 14 through 83. It was then possible to establish more than 2,000 stations in nearly 1,300 communities. By July 1952, there were 108 stations on the air in 63 cities.[111]

A new set of rules for compatible color was issued by the FCC in 1953 in favor of the RCA system. This ruling provided the industry with the basis for the promotion and commercialization of color programing.[112]

By 1952-1953 NBC and CBS were far along in their transition from radio to a primary emphasis on television. In 1953 ABC and Paramount Theaters merged and took over the third ranking position they now have. Mutual decided not to enter television. At that time there were 126 stations on the air, but only 6 of them were UHF. By 1970 there were 862 stations on the air of which 281 of them were UHF; included in this figure are 80 VHF ETV and 105 UHF ETV stations. There were 85,000,000 sets covering 96 per cent of the homes in the United States.[113]

Part 4. Educational Television

The beginning of ETV can be traced to the State University of Iowa whose electrical engineering department developed an experimental station (W9XK) in 1932 and functioned through 1939 transmitting over 400 programs; these were probably the first educational television programs in the United States, if not in the world.[114]

The year 1948 found only five U.S. educational institutions seriously involved with the new media; they were the State University of Iowa, Iowa State University, Kansas State College, University of Michigan, and American University in Washington, D.C. By this time there was little, if any doubt left in the minds of radio manufacturers, broadcasters, and advertisers that television would be the dominant medium of the near future. Education did not share this vision, had not pursued the potentials implicit in the Iowa experiment, and had not determined whether television had a role in education or the nature of the role.[115]

The first nonexperimental educationally owned television station in the world and the 100th television station in the United States began regular programing in February 1950, as WOI-TV at Iowa State University in Ames, Iowa.[116]

The 1948-1952 FCC freeze on new stations was for the purpose of planning nationwide allocations for the future of educational television. As the Commission held preliminary hearings some educators hoped the planning would consider the reservation of channels for educational use since, in any given area, there is a limit as to the number of channels that can be used without interference. The commercial interests were applying considerable pressure in support of a completely commercial channel reservation plan. The Commission, in the face of little expressed interest or concern from American educational leaders, gave the impression that they were inclined to go in the direction favored by the commercial interests.[117]

However, the educational broadcasting movement, which had found unity within itself at the residential seminars held in the summers of 1949 and 1950 in Allerton House at the University of Illinois, was able to provide some of the leadership necessary to save educational television. This was a very critical time since the FCC decisions would probably determine the developmental pattern of television for the next two decades.[118]

Indeed, in 1950 when the Commission did release its proposal for the long-awaited plan for a nation-wide television allocation system, there were no provisions for educational needs. The only dissenting opinion from a Commission member was by Freda Hennock who made a precedent setting plea for the reservation of television channels to meet the needs of education for the present and future. She was to provide for the educational establishment of legal and moral platforms on which subsequent action would be based. Attracted by her efforts were such groups as the American Association of Mayors, the National Association of Educational Broadcasters, the Association of Land Grant Colleges and Universities, the Association of State University Presidents, and the National University Extension Association. The high point came in 1952 when the FCC issued its Sixth Report and Order which reserved channels for the educational establishment.[119]

However, the educational institutions were unprepared to actually establish ETV stations. Educators had been pulled and pushed into the FCC battle arena after being bullied into recognizing the need for immediate action in regard to their future in television broadcasting. Nevertheless, a great conceptional gap existed resulting in a lack of understanding of the role of television in the educational process. Educators had fought for the allocation of reserved channels, but having won found themselves floundering in a situation largely created by their lack of past interest in the newest member of the media. As a result the growth in the number of ETV stations was slow; nineteen years after the issuance of the Sixth Report there were, as of January 1, 1971, 86 VHF ETV stations and 113 UHF ETV stations in operation.[120]

SECTION B. ENGLAND

Part 1. Radio

In England radio was to be gradually organized along different lines. Though we will see that the attitudes by the two countries toward broadcasting are very similar, we will also see that there are those basic differences between countries that arise from geographic, political, social, and economic foundations that will lead to the institutionalism of the medium in a way that is appropriate to England.

Between 1908 and 1914 the word "radio" came to be used with increasing frequency and among an increasingly larger group of people. However, though the term was popular in America, there was a tendency to resent the word in England and for some decades their radio engineers insisted upon being called "wireless engineers."[121]

British businessmen saw radio as a means of point-to-point communication; as a telephone without wires. It meant to them that they could dispense with the expense of copper wires, gutta percha coverings and iron sheathings. Now, for their own private use, they could easily surmount deserts and oceans.[122]

Because of the interplay of inventions and enterprise, the period from the late 1890's to 1914 was characterized by conflict and litigation as well as by technical development.[123]

> To the casual observer it might well have seemed that the great inventive geniuses of this period were of pirate blood and that they boldly seized one another's ideas without regard to consequences.[124]

> As usually happens in such circumstances, questions of piracy and patents went together. The Marconi Company held the key patents. The same question arose which had stirred inventors, businessmen, and the general public in the Industrial Revolution of the eighteenth century. Were these patents in the public interest?[125]

However, in 1914, a ban was imposed on radio in Britain on the outbreak of war and was not lifted until 1919. The years from 1914 to 1918 were crucial for the United States in the story of radio. The United States was able to continue experimenting unhindered until entering in the war in 1917. However, on the outbreak of war the United States, as noted earlier in this paper, also took over all wireless stations and activities.[126]

Under the impetus of military needs, research and development continued in both countries. Courses in radio instruction were given to many soldiers, sailors, and airmen. Organized broadcasting in England grew, in a sense, out of these wartime activities. What is surprising is that with so many men exposed to radio there were so few people who saw its possibilities. America's David Sarnoff was the outstanding example, on both sides of the Atlantic, of a man of vision.[127]

In the years immediately following the war the Marconi Company assumed the initiative in England as it had done before the war, toward organized broadcasting. These efforts culminated on June 15, 1920, when the opera singer Dame Nellie Melba gave a half-hour performance from their Chelmsford station in the presence of a distinguished audience.[128]

That broadcast is considered to be a turning point in the response to radio by the people of England. Radio activity began to accelerate. An increasing number of famous artists assisted the Marconi Company in its demonstrations and the Daily Mail and the Daily News encouraged further cooperative ventures between radio and press.[129]

All transmitters or receivers had to be licensed according to the terms of the Wireless Telegraphy Act of 1904. That Act made the Post Office responsible for such licensing. Though the Marconi Company held a general license it had to be granted special permission on each occasion that a major experimental broadcast was to be undertaken.[130]

However, the Post Office was in the position of having to be responsive to the effect these broadcasters were having upon the government interests. Criticism of the broadcasts "in official circles on the grounds that they were interfering with important communications such as by the armed services and were a frivolous use of a national service"[131] led the Post Office to suspend the Marconi Company broadcasts in the Fall of 1920 from Chelmsford.

This didn't mean that broadcasting was not to continue in England. Though broadcasting was illegal, the amateurs continued their aggressive experimentation with equipment and programs.[132] Through the efforts of the wireless societies support was generated that led to the authorization by the Post Office for the Marconi Wireless Telegraph Company to offer a weekly broadcast 15 minute program of speech and music by the Writtle station (near Chelmsford). The broadcasting began on February 14, 1922, and continued on a regular basis until January 9, 1923.[133] This was to be the first broadcasting station in Great Britain to do regular and advertised transmissions.[134]

Another direct influence upon broadcasting in England was the rapid growth of radio in the United States. Serious broadcasting did not arrive in England until the situation in the United States forced the hands of the authorities to allow it.[135]

What was the American influence upon England? Asa Briggs in his United Kingdom broadcasting history says:

> Not only the American lead in broadcasting but the kind of broadcasting pattern which took shape there had considerable impact on the sequence of events in Britain. Eventually the British and American broadcasting systems were to be so completely different -- one based on a concept of 'public services,' the other fully integrated into the business system -- that in all controversies about the place of radio in society they were to be taken as the two chief contrasting types. In their birth and infancy, however, they were not so distinct as they have since become. In both countries there were the same pressures and the same outspoken advocates of common ideas and comparable institutions.[136]
>
> What was immediately apparent, however, and historically of great significance, was that for technical rather than for social reasons the experience of American broadcasting in 1921 and 1922 could not easily be taken as a model by England. America's lead time was envied in Britain and quickened the pace of development in Britain, but the use made by American broadcasters of their lead served as a warning rather than an example.[137]
>
> High-level opposition to advertising in the United States did not deter the practice because no reasonable or acceptable alternative means of securing revenue for broadcasting companies was ever proposed.

> The methods later adopted in Britain -- licensing and raising a levy on the sale of broadcasting receiver sets -- were opposed in the United States by powerful interests and unpopular with the public.[138]
>
> During the first years of broadcasting experience it was not distaste for American advertising which influenced the first British critics of American broadcasting, but alarm at the 'chaos of the ether' in the United States. The multiplicity of radio stations and the scarcity of wavelengths led to interference and overlapping, 'a jumble of signals' and a 'blasting and blanketing of rival programmes'.[139]

Too, "the American radio industry as a whole was 'poorly financed, lacked direction, and suffered from tendencies to over-production'."[140] And, finally, in this last of a series of comments regarding American influence, Asa Briggs says:

> . . .it was not until the end of 1926 and the spring of 1927 that the constitutional patterns of American broadcasting took shape. British broadcasting had been fully institutionalized by then in the form of the British Broadcasting Corporation.[141]

American broadcasting was a powerful stimulus. "It proved beyond a doubt not only that broadcasting was technically possible but that large numbers of people were interested in it."[142] Further, there came to England from the United States men who were interested in its financial opportunities in Britain. They pointed out the public interest in broadcasting, the significant amounts of money to be made in the sale of receivers, and how England was not yet in on a good thing.[143] British radio manufacturers saw the need to create a broadcasting service to create a need for the sale of receiving sets; thus, a number of manufacturers following closely upon the path of the Marconi Company applied for broadcast permission early in March of 1922.[144] However, it was recognized in 1922 that, in such a small country, to have an unlimited number of stations on the air would result in having a much more aggravated sort of chaos than that existing in the United States. Therefore, responsible officials believed it necessary to impose at the beginning regulations for the control of wireless broadcasting.[145]

The Post Office began a series of meetings with the radio manufacturers to determine the basis for the future of broadcasting in England. An agreement involving nearly 200 firms was reached supporting a broadcasting scheme built around a single outfit, the British Broadcasting Company. The funding for it was to be via subscribing membership limited to British radio manufacturers. In addition to the subscription fee a royalty on the sales of all sets was laid down as part of the agreement. Thus, the company had funds available from three sources: the subscription fee, the royalties on receivers, and half the license fee on receiver use.[146]

Though the Company had no legal monopoly, it proved that for all practical purposes a monopoly had been granted. Technically, there was nothing to prevent the Post Office from establishing another company. However, it was clear that another broadcasting company could not receive any funds from the British Broadcasting Company's share of the license fee or from the royalties paid by the manufacturers. Too, the member companies controlled most of the patents.[147] The Company was licensed from November 1, 1922 to January 1, 1925, and was given authority to operate eight broadcasting stations.[148]

Ronald Coase in his study of British broadcasting says that it shouldn't be

> . . .forgotten that the main interest of the manufacturers was not in broadcasting as such. Their aim was to sell receiving sets and they wanted a broadcasting service to be established in order to be able to do this. Consequently, the interest of the groups in preserving their independence in the case of the broadcasting service was not particularly great.[149]

Many weaknesses developed rapidly in the financial structure of the Company and led to a broadcasting inquiry; the Sykes Committee which sat from April 1923 to August 1923, whose Report led to a revised version of the original B.B.C. agreement.[150] A second Report basic to the formation of the Company was issued by the Crawford Committee which sat from the summer of 1925 to March 1926. The objectives of the latter committee was to advise as to the future of the B.B.C. after the expiration of the existing license on December 31, 1926.[151]

The Report of the Sykes Committee forecast the end of private operation and its replacement by public control. It was stated that "broadcasting holds social and political possibilities as great as any technical attainment of our generations;" and, according to Burton Paulu, it went on to say:

> . . .for these reasons we consider that the control of such a potential power over public opinion and the life of the nation ought to remain with the State, and that the operation of so important a national service ought not to be allowed to become an unrestricted commercial monopoly.[152]

> Because the British Broadcasting Company was a monopoly and because British radio as a result developed in a more orderly manner than elsewhere, such problems and issues of broadcasting as finance control, broadcasting of controversy, relations with government, network organization, and public service broadcasting became apparent and began to find solutions in the United Kingdom earlier than elsewhere.[153]

The Report of the Crawford Committee led to the Charter and License which created the British Broadcasting Corporation. Broadcasting was authorized for ten years from January 1, 1927 to December 31, 1936. Under the new Charter the B.B.C. was transferred from a commercial monopoly to a public monopoly, financed by license fees on radio receivers, and administered by an independent public corporation.[154]

> These three basic principles have remained the permanent structure for British broadcasting except for the ending of the B.B.C.'s monopoly on television broadcasting by the Independent Television Authority in 1955,[155]

and the decision to operate local commercial broadcasts in the 1970's.[156] Whenever the charter and license are due for renewal a distinguished committee representing both major parties is appointed. Though their findings may be critical of selected aspects of B.B.C. operating procedures or they may recommend specific changes in the constitution they all have approved and supported the continuance of the B.B.C. in accordance with the three basic principles.[157]

Part 2. Television

With its charter and license due to expire on December 31, 1951, the Beveridge Committee was appointed in 1949 and conducted the most thorough theoretical and practical review ever made of British broadcasting.[158] The extension of the corporation's Charter and License on the same basis as before was made in January of 1951 by the Committee.[159] Though the Labour government concurred it did not issue, prior to going out of office in October 1951, the new Charter and License. The new Conservative government unexpectantly found the door open for the input of its own ideas about the future of British broadcasting, expecially in regard to television. A six-month extension was given while within party council permanent policies were discussed. The continuation of radio broadcasting as before was announced:

> . . .with the addition of some element of competition in television, and it was understood -- though not so stated -- that the new service was to be commercially supported.[160]

However, in the B.B.C. no basic changes were proposed and the renewal of the Charter and License was extended for another ten year period, effective from July 1, 1952.[161]

The Independent Television Authority was created by act of Parliament and became law on July 30, 1954. A corporation, something like the B.B.C. with authority to own and operate television transmitters and produce sustaining programs.

However, most broadcasts were to be privately prepared by commercial contractors in their own studios; the contractors were to pay for the privilege and meet their own costs by selling spot announcements. The I.T.A. supervises all probrams closely and there is no sponsor control of program content permitted. Thus, there is provided a system under which commercial advertisers can in no way influence or control the content of programs.[162]

Television had reached a state of technical feasibility by 1931 through an international series of technical developments. In that year Isaac Shoenberg established a research group in England that fostered the evolution of a complete and practical television broadcasting system. The B.B.C. was authorized to adopt the Shoenberg systems standards, including 405 lines, and the service began in 1936. So adequate were the Shoenberg standards that, until they were gradually superceded by the European continental standard of 625 lines, they formed the sole basis for British television.[163]

In the United States the commercial development of television had been slower. The National Broadcasting Company, which had announced plans to begin broadcasting for two hours per week began on April 30, 1934, at the opening of the New York World's Fair. Later in that year the Columbia Broadcasting System began and in 1940 the Dumont network also began telecasting. Television broadcasting on a wide scale was not begun by other nations until the early 1950's.[164]

Part 3. Educational Broadcasting

In the history of the B.B.C. the talk programing story is one of the most complex areas. Rather than a story of continuous progress, it is one of ups and downs, of changes in direction, and of organizational changes.

> Sometimes the Director of Talks, or whatever his official title was, became the most powerful departmental chief in the B.B.C.; and, at other times his kingdom was partitioned, and he himself reduced to a routine administrator. There were frequent reactions against previous regimes and for a short period in the mid-1930's there was something like an interregnum.[165]

The autumn of 1924 saw the first broadcasts of adult education talks initiated by the B.B.C. An Educational Advisory Committee was established by the Corporation in 1923. This Committee cooperated with the British Institute of Adult Education in setting up a joint investigating committee in 1926. This resulted in the Hadow Committee Report, "which urged the use of broadcasting in adult education, and the publication of a weekly journal." The journal, which began publication in 1928, was known as the Listener.[166]

A Mr. R.S. Lambert joined the B.B.C. in 1927 with the mandate of arranging future adult educational talks. Following his appointment there was a burst of activity with the Hadow Report providing a kind of charter.[167] Listening groups were seen as the unit of broadcast adult education. These groups were envisioned as "groups of five or six friends meeting in each other's houses to the large group of possibly forty persons meeting in the public library of a big town."[168] A representative Central Council for Adult Education with the Director of Talks as the secretary was brought into existance in 1928. This Council was to be supported by Area Councils representing local opinion and local organization.[169]

A Five-Year Plan was embarked on with great initial enthusiasm and talk of expansion. "Very elaborate machinery was set up to organize the groups, for which the B.B.C. presented talks on current and often controversial subjects at peak evening hours."[170] "However, by the time the first Five-Year Plan was due to end, there were no thoughts of a second. Further, the Central Council was dissolved and replaced by a smaller Advisory Committee for Broadcast Education with no executive powers. This Committee came into existence in December of 1934 and was dissolved two years later. On January 1, 1937, an autonomous organization based on the Area Councils and loosely brought together by a Central Coordinating Committee was set up for listening and work. Transmission-end work was the responsibility of a Talks Advisory Committee organized to consider all talks, including adult education. A shift of policy away from the adult education audience to the general audience had taken place.[171] The apparent causes behind the failure of the adult education project can be identified as follows. First, the uncertainty of what they were doing and the inability to maintain momentum resulted in a gradual diversion of professional B.B.C. effort into the field of schools broadcasting where the feeling of purpose and observation of apparent success created a more viable situation. Second, the B.B.C. and other adult education groups failed to cooperate in any real way. Third, the organization in the B.B.C. for adult programs was in continuous flux. For instance, in February 1931 it was taken out of the Talks Department and became a separate department; in February 1932 it was moved back into the Talks Branch as a department; and in September 1934 it lost its department identity within the Talks Branch. Not only were there personality differences but it never was clear as to how organized adult education and talks were related. Too, the Hadow Report had recommended fourteen Area Councils to be set up. However, only four ever came into existence so that at the base of the operation there was a lack of local organization.[172]

> The B.B.C. had undertaken a pioneer experiment in adult education. It was not itself an adult education authority, and did not wish to interfere with local education authorities. The B.B.C. was getting near to receiving the full 100 per cent of license revenue from the government and there were many urgent claims, including those of television on that income. Broadcast talks for groups would continue: the groups must learn, however, to fend for themselves.[173]
>
> By the time that 1940 came, many members of the pre-war groups were already in the Forces, and once the issues were raised again seriously inside the B.B.C., television could not be left out of the reckoning. That the work of adult education itself involved complex psychological social issues was never in doubt. Nor was it in doubt that there was an undercurrent of resistance. 'We can imagine no more unsuitable medium for adult education than a state-owned service which enters the homes of people of every age, sex, religion, political colour, standard of intelligence, and rank in society,'

> the Glasgow Evening Citizen had declared comprehensively in 1927.[174]
>
> The term 'adult education' was used as sparingly as possible between 1927 and 1939. There was a growing feeling that it should not monopolize 'peak hours.' As the Wireless Organizations Advisory Committee put it in a resolution of April 1927 at the very beginning of the period: 'While every encouragement should be given to the use of broadcasting for adult education, no additional matter of this nature should be introduced into the programmes after 7 p.m.' The Daily Mirror went further. 'The indulgent listener is middle-aged. Around him fuming impatiently sit all the younger members of this family. They want to be amused. They do not want to be educated'.[175]

The B.B.C. had set up elaborate machinery to organize discussion groups for which talks on current and often controversial subjects were presented at peak evening hours. The problem, according to Burton Paulu, of:

> . . .how to use an instrument of mass communication for conveying systematic information and ideas to small heterogeneous groups at widely differing levels of intelligence and educational background remained unsolved.[176]

Even though over-all radio audiences in the 1930's were growing into millions the number of listeners for the adult education programs remained small in proportion to the potential audience. Therefore, the group-listening movement was considered an unworkable concept and resulted in the elimination of the Adult Education Department with its functions assumed by the Talks Department.[177]

Further consolidation of adult education activities into a Further Education Project within the Talks Division has occurred since 1947.

> The corporation now realizes that its main cultural and educational effort is conveyed through its radio and television programs as a whole, both serious and entertaining, and regards Further Education as supplementary to them, rather than as something set apart, as Adult Education had been, and school broadcasting still is.[178]
>
> A few new Further Education programs are created every year and publicized, along with some already existing broadcasts of educational value. But none of them are labeled 'educational;' they just 'happen along' in the course of the day's output, and are appropriate to the character of the network carrying them. Serious talks for listeners of high ability are placed on the Home Service, and materials for the less sophisticated on the Light Programme.

Incidentally, the B.B.C., until the advent of the British Open University, had never turned over air time to educational institutions, as happened in American broadcasting.[179] Too, random sampling of Further Education broadcasts have shown that:

> . . .like not a few American educational programs, much of the B.B.C.'s Further Education broadcasts output is better suited to educating the educated than informing the uninformed.[180]

SECTION C. IMPLICATIONS

In examining the foundations of adult education and of correspondence study it is clear that professors on both sides of the Atlantic share the same attitudes in regard to the forgoing. However, whereas attitudes toward adult education and correspondence study are generally cast in either terms of low esteem or in a negative mold by English and American participants in higher education we find that instructional broadcasting not only creates the same reaction, but also tends to bring forth a strong defensive reaction.

The attitudes by professors on both sides of the Atlantic toward, not only ITV, but the whole range of what is referred to as audiovisual is essentially the same. For instance, one study in the United States ascertained that "many professors regarded ITV as a deceptive, automated contrivance, the machinations of which had been designed solely for the purpose of usurping their jobs."[181] Another American study was typified by such statements as the following: "ITV is a fine instructional medium and should be encouraged for all to improve instruction, but not for my subject area;" and "ITV is the best means of teaching if I had to use it."[182] That these attitudes of American professors can be found among the professors of higher education in England is supported by the Brynmor Jones Report which states:

> . . .with some notable exceptions among individuals and groups of enthusiasts, most University staff seem apathetic towards, and even unaware of the potential use of such aids, at least of the more sophisticated kind; it is often assumed that their chief value and proper place are confined to elementary, secondary and, perhaps, adult education. There is a great deal of suspicion of 'devices' and 'machines' as substitutes for and hence a threat to the University teacher.[183]

In a recent report by a university evening program proposing a special baccalaureat for part-time adult evening students there was concern expressed for the effects of varying instructional methods on learning outcomes. The report by Walter Nunokawa and Kunio Nagoshi went on to say:

> . . .a search of the existing literature on this problem, however, produced no convincing evidence that varying techniques of instruction affect learning differently. The alternative hypothesis that essentially the same learning results whatever the technique of teaching, therefore, seems to prevail. But this conclusion is limited to learning as measured by those course examinations that reflect a student's comprehension of contents and principles of subject matter (such as is measured by multiple choice tests) and not necessarily to affective and skill learning.[184]

Charles Steinberg picks up on the above theme and amplifies it as follows:

> . . .several drawbacks to traditional research approaches can be mentioned. First of all, a large number of research findings produced by experimentation are specific to the television lesson studies, or the circumstances of its production and use. On the other hand the more basic and theoretically valuable the research is, the less easy it is to apply the results to a real-life situation. Although findings of experimental research should be cumulative and lead eventually to a set of guidelines which will be helpful in the planning, production and utilization of educational television, this had not occurred in practice, and it is still doubtful if it ever will occur. At best one can expect that evaluation and testing will become part of the normal production process, and those who make television programmes or use them in teaching will become sensitive to the value of research of this kind and use it wherever it can be helpful. Secondly, when experimental or survey research is carried out with a view to evaluating television as an educational medium, it soon becomes apparent that the notion of 'effectiveness' involves the application of measuring criteria which are often absent in the educational process or, where they exist, are regarded as an alien intrusion. Precise teaching goals are rarely laid down, and the measurement of progress by examination is frequently regarded as peripheral. It is difficult to reconcile the requirements of the experimental situation with the idea that there may be a separate ideal learning goal for each individual and that different media may be suitable for alternative pur-

> poses whose fulfillment cannot be assessed on the same metric. Thirdly, we are continually faced with the problem of interpreting the finding, which so frequently shows up, that there is 'no statistically significant difference' between the teaching effectiveness of television and some other means of communication. Can we really believe that in all these cases there is not some qualitative difference between the two experiences which has simply not shown up on the measures employed? There is a risk in conventional research procedures, of failing to take account of longer term consequences of a change in the basic means of communication, and especially of failing to see that the whole communication situation changes when the medium is changed. By controlling the conditions under which communication takes place in order to study 'effectiveness' we actually eliminate the most fundamental and lasting effects which are precisely on the conditions of communication. This point in fact contains the clue to our present uncertainty, since we have not yet experienced and cannot easily anticipate or simulate the changed circumstances of communication which could result from the widespread use of television. The most important consequences for education are likely to be on future educational structures and institutions, and at present we can only rely on rather shadowy predictions and inferences to foresee what they will be.[185]

> Of all the uses to which radio and television have been put, none had commanded more enthusiasm and at times led to as much disappointment as the educational uses of the broadcasting media. Nevertheless, for a variety of reasons, radio and television have not displaced, and probably never will, traditional means of education; instead, radio and television have been used on a limited scale to supplement and enrich traditional modes of education and, in certain instances, where traditional devices have been found seriously wanting, they have served to fill previously untended needs.[186]

The future comes across as being an extension of the past uses of radio and television. The traditional, campus centered, residential type of education which has been institutionalized and thoroughly accepted by society has indicated through its utilization of mass media that it has a "minor" supportive role to play in traditional education. Clearly, this supportive role is not considered a necessary one by administrators and faculty of our educational system --a statement intended to be inclusive of all levels of our educational system.

If mass media has been quietly rejected as a major component of the system and relegated to a minor supportive role in education, is there reason to think that it does have a significant place in education? Its limitations are taken to suggest that radio, television, or correspondence study cannot stand alone. They appear to need to be mated together with a viable concept in which their assets are either a necessity or, if not that, an acceptable use of the media insofar as society is concerned.

A large scale commitment to the formalization of the concept alluded to would call for the times to be "right" for society to politically and economically support anything that is at variance with the existing institutionalized educational delivery methods. An example would be the formalization into an institution of a nontraditional degree granting form of education based on non-residential, non-campus instruction. Distance education may be an acceptable label to describe this concept.

Distance teaching is a name for a multimedia educational process in which the teacher and the student may never meet in a face-to-face situation. He may or may not study at home. He may study in a group, under some sort of supervision or in part at home and in part in a seminar in the presence of an instructor. He may receive his instruction, in part, via the radio, television or telephone, even though mail services still play an important role in delivering and collecting printed and, perhaps, recorded materials. This form of education is emerging because there is an educational need which society cannot satisfy through traditional educational structures.[187]

The trend toward distance teaching is world-wide and involves both the industrialized and the developing countries.[188] A trend within distance teaching is towards the systems approach which not only requires a group of specialists to work together toward a common objective, but it is an approach that lends itself to evaluation techniques considered by some to be better than those used for traditional forms of education. Of all the countries of the world the one to first meet this challenge on an effective operational scale was Great Britain with her Open University.[189]

The pattern of programing lagging behind the technological capabilities of broadcasting is apparent from its beginnings. The first two decades of radio were devoted to its technical development as a wireless form of the telegraph. In the early 1920's came the realization that the ability of thousands of people to eavesdrop upon a broadcast had an unsuspected potential for the future of broadcasting. The initial thinking revolved around the possible economics of thousands of potential listeners buying home radio receivers to listen to broadcasts. The next developmental stage was the use in the United States of advertising to support the entertainer whose broadcasts would, in turn, not only sell radios but the products of the advertisers. In England it was the government that assumed a major role in the economics of broadcasting.

Early involvement of higher education centered upon the electronic development side of broadcasting. In the context of the above it would seem rather natural that higher education would lag behind the commercial arena in radio and later television as a vehicle for its own use in transmitting educational programs.

CHAPTER IV

The British Open University

There was a ready availability of funds for educational support in England and the United States after 1945. The influx of students since then had been met by an emphasis on physical plants; the building of entire new universities, two and four year campuses, and all the related supportive buildings that are traditionally needed to house the act of instruction.[190] The fact is, however, that attending a university is an opportunity, and perhaps a luxury, which cannot be experienced by all people in any country who not only want it, but who qualify in the best academic sense of the word for a higher education. The need to meet this challenge of providing such an opportunity on an effective operational scale was finally recognized by the British.[191]

A combination of the issuance of the Robbins Report in 1963 and an intellectual climate that was ripe for a move against the traditionally elitist conception of higher education was to lend needed support to the development of the Open University because:

> . . .the system has been and largely still is, elitist with a vengeance is well documented. In 1900 only 0.8 per cent of the relevant age group entered a university; by 1962 this figure had risen to only 4 per cent; plus another 2.5 per cent in teacher training. It was at this stage that a government-sponsored committee under the chairmanship of Lord Robbins issued a voluminous report on the state of British higher education. Essentially, the Robbins Report set the tone for the destruction of elitism by proposing that places in higher education be limited not

> by some arbitrary decision but solely by the number of students able and willing to benefit from the system. Thus, in practical terms Robbins recommended the doubling of available university places within a decade, noting that this would likely prove an underestimate of true demand.[192]

As it turns out, Robbins did underestimate the demand by students for university instruction.

> The Robbins numerical target was exceeded -- by both the expansion of existing universities and the creation of new ones -- and the doctrine of supply based on qualified demand is now widely accepted if not completely applied. But implicit in Robbins's recommendations for the future was in indictment of the past. If it is true that a higher proportion of the relevant age group is now capable of benefiting from higher education, it follows that many adults must have been deprived of a university education for no reason other than insufficient places. In numerical terms it has been estimated that more than a million additional people would have been qualified for higher education had the Robbins proposal been applied thirty years ago -- a not insignificant proportion of a population of only a little more than fifty million. It was to this 'forgotten million' that planners of the Open University directed their attention.[193]

Stuart Maclure suggests that Harold Wilson's inspiration for the Open University originated as follows:

> The original notion of the Open University was as a 'university of the air' to combine educational television with a national correspondence college. Its apparent progenitor was Dr. Michael Young, author of The Rise of the Meritocracy.[194]
>
> Harold Wilson seized on Dr. Young's idea with enthusuasm. The University of the Air fitted his carefully cultivated role as the apostle of white-hot technological revolution. Wilson placed the emphasis on the creation of an institution to take care of mainly blue-collar workers who had missed out on youthful education -- thus capturing the real concern for the educational underdog which has always lain close to the heart of Britain's Labor movement.[195]

Peter J. Smith's analysis of the situation is as follows:

> In the Britain of 1964 it was fashionable to worry about the apparent nonexploitation of technology that was producing a 'technology gap' between Europe and the United States and to look for a partial solution in more trained scientists and technologists who would help fill the need. And where was it more obvious to look for the additional manpower than among the underprivileged, undereducated working class, many of whom would no doubt be found among the 'forgotten million'? Thus, Labour's more explicit idealist commitment to the advancement of the working class neatly coincided with an evident national need to produce an experiment in education that would serve both.[196]

The idea simply didn't catch on with any segment of society; neither the general public, nor educators, nor the politicians paid any serious attention to the proposal. Within a few months of the announcement (that is, Spring 1964) Wilson released the information that Miss Jennie Lee, the widow of Aneurin Bevin, had been asked to take on the responsibility of making the University of the Air a reality. Wilson was deeply in her political debt and was prepared to support her regardless of the opposition. This gave Miss Lee tremendous leverage which when combined with her sharp tongue, passionate eloquence, and aptitude for fierce infighting made her irresistable.[197]

> In the Wilson government she had three functions; she was Minister for the Arts, parliamentary under-secretary at the Department of Education and Science, and she was responsible for the University of the Air, rechristened the Open University in 1967.[198]

The Conservatives, who had been highly hostile to the concept, came to power in June 1970. Serious thought was given to stopping the project, but, after further consideration, it was decided to support its continuation. However, tied with the approval was this request: change the minimum age from 21 to 18.[199] The University really had no intelligent choice but to accept the edict and beginning planning for its implementation.[200]

After seven years of planning the University accepted its first students in 1971. Overnight the enrollment in British Universities was increased by 40 per cent; approximately 25,000 people over 21 out of 40,000 applicants were accepted into the Open University. The cost of setting it up was 33 per cent of the expense of establishing a residential college.[201] Moreover, the ongoing cost per equivalent undergraduate is likely to be about 25 per cent of the conventional university cost.[202]

The stated purposes and instructional techniques of the new university are as follows:

> The Open University will have three purposes:
>
> a) to contribute to the general improvement of educational, cultural and professional standards in the United Kingdom;
> b) to enable keen students outside the existing universities to undertake disciplined study with a view to acquiring degrees or other qualifications;
> c) to contribute to the educational need of students in other parts of the world, more especially in the developing countries.[203]

The following methods of communications are being used between teacher and student:

> 1) correspondence teaching requiring individual correction and guidance to ensure critical thought and independent investigation;
> 2) study groups in areas where it is possible to collect sufficient students to have face-to-face discussions;
> 3) short residential courses or seminars for more intensive study. Seminars to be held throughout the year. Residential courses will be held during University vacations;
> 4) regular news-letters and tutorial letters giving advice on study, listing appropriate reading and drawing attention to new research findings;
> 5) opportunity for personal interviews or tutorials with tutors to resolve difficulties that arise in the course of study;
> 6) a telephone service for enquiries;
> 7) some provision of library facilities.[204]

The correspondence activities account for approximately 90 per cent of instruction while radio and television each account for roughly 5 per cent of the total instructional time. The radio and television programs are broadcast on the B.B.C. Sunday mornings and on weekdays between 5:30 p.m. and 7:30 p.m. The full-time central academic staff of about 200 is divided into six faculties of science, humanities, social science, mathematics, educational studies, and technology that work closely together on a small campus situated in the new town of Milton Keynes, about 50 miles north of London. On a wider scale, the country is divided into twelve regions, each of which has a small full-time academic and administrative staff whose functions are to organize the nationwide tutorial system and summer schools in accordance with academic criteria set by the central and regional academic staffs.[205]

> Spread among the twelve regions are more than 250 local study centers located usually in Universities, technical colleges, or schools at which

> students may receive counseling and face-to-face instruction and, if they have missed the broadcasts on the national network, view the TV programs on films and listen to the radio programs on tape. The tutorial and counseling functions are handled by more than 3,000 part-time academics of three types: counselors who offer personal and operational advice on the learning system, class tutors who grade student assignments and offer academic advice in writing or by telephone. Students are not compelled to make use of counselors and class tutors. Summer schools, on the other hand, are compulsory, and each student is required to attend for one week for each course he studies. The academic content of the summer schools varies from faculty to faculty, but for obvious reasons the science schools are primarily devoted to concentrated laboratory work.[206]

The Open University may be an educational symbol of the ongoing process of the democratization of Western society. Higher education in England has, according to Richard Lester:

> . . .remained enmeshed in certain emotional attitudes closely connected with a Puritan tradition and a monistic heritage. Change is required in order to come to grip with the democratic climate of ideas of the 20th century. While some educators have in recent years helped to create a popular desire for an academic degree, they have generally made it difficult for the adult to earn such a degree. The ordinary daytime class schedule has been a major barrier. Very few British adults are able to attend regular classes, but many are able to attend in the evening, and the successful, but small, evening college is one institutional answer. However, the demand for instruction far outran the size of the existent programs.[207]

It was to meet the needs of the adult working classes that the British Open University was begun. The real possibility exists that this is the most ambitious venture in extramunal higher education ever undertaken in either England or the United States.

What makes this venture of special significance is its unusual combination of student body and instructional methods. Unusual and special because traditional higher education does not include the working adult as a member of its primary target group which are the high school graduates and full-time day students. Nor does traditional education allow other than a peripheral role for correspondence study and instructional radio to play in carrying out its educational objectives.

CHAPTER V

Challenge To Educational Tenets

The Open University may very well challenge not only the structure of higher education but its purpose and function as well. When compared with England's traditional elitist educational policies the Open University represents a change of such magnitude that it is staggering.

The generally negative attitude of higher education toward adult education,correspondence study, and instructional broadcasting has been well documented. Moreover, a somewhat subtle factor that has further compounded this negative reaction toward not only instructional broadcasting but also telecommunications technology in general over the years has been the gap between the technologists selling their technical breakthroughs in terms of practical application, yet these actual applications by curriculum developers are often more difficult than the technological breakthrough itself. Another aspect of this has been that the commercial hardware-to-software innovator rather than the educational software innovator has been plotting the course of developments.[208] The British Open University appears to be in a position to take the lead in the development of applications--thus establishing on the part of curriculum developers a software-to-hardware order.

The Open University may be society's way of protecting its established universities from untested changes of broadening the universities traditional social role, of altering the existant set of educational values, of challenging in a carefully controlled way not only the mechanics of higher education, but its purposes and function.

Some of the more obvious challenges to higher education by the Open University are the emphasis on students 21 or over and requiring no formal entry qualifications; the emphasis on adults; the use of correspondence study as its principle means of instruction; the significant usage of instructional broadcasting; the division of courses into units and the assignment of credits for work completed.

> The credit system in the Open University will confront existing British universities and force them to reconsider their attitude toward students who have taken one or two courses but have not gone through to the end.[209] As a national institution it may well act as a catalyst for the near nonexistent transferability of credit.[210]

What are some of the indirect influences that may affect the traditional universities on both sides of the Atlantic? The accepted role of the professor as a classroom teacher may well feel the influence of the British Open University. A different set of educational values may now be acceptable by society, thus freeing professors in traditional institutions for more "radical" experimentation. "Academics are skeptical about the idea of efficiency in academic life."[211]

> The myth that the teaching endeavor is a mysterious process encourages the attitude that the results defy measurement. Since the product is so unquestionably 'good,' cost need be of little consequence.[212]

"The ideology of the academic profession treats professors as independent professionals."[213]

> This ideology is deeply entrenched and is protected with more or less constant vigilance. Research is an anomaly, in that cooperation and criticism are expected and sought; instruction, however, is isolated from even constructive criticism.[214]

The Open University did design a special curriculum for an adult audience. The central academic staff is divided into six faculties and works in teams to write the correspondence courses, to prepare the radio scripts, and to produce the television programing. These teams are made up of subject matter specialists and radio/television specialists from the B.B.C. with appropriate academic subject backgrounds.

In other universities a man usually prepares a course single-handedly and is not given any significant resources to accomplish the task. However, the Open University may allocate to the production of a half-credit course five subject matter specialists and professional support from the media--broadcast producers and so forth. Thus, they are virtually told to go away for a year and a quarter and produce the instructional material needed to engage students in a learning experience lasting 170 hours. Thus, it is the instructional team, not the individual, that does the job. Too, the television and radio producers have as much right as anyone to inveigh against or to veto lesson material if they do not like it--just as the academic staff influence the media production efforts.[215]

A particularly striking change that is part of this team effort is the inclusion in each team of an educational technologist whose primary function is to assist the teacher in defining his objectives and in satisfying others on the team that the teachers techniques will achieve them, as measured, in part at least, by students' needs and capacities. Courses will be designed scientifically, and pre-tested on students for success.[216] Moreover, once a course begins it is constantly reviewed and revised. Such changes are suggested by the interpretation of results, methods, objectives, and goals. In no other institution of higher learning has the combination of media, institutional team-effort, and of the systems approach to learning been as scientifically applied to the institution as a whole as in the British Open University. The British Open University represents an educational change of major significance that may well have an influence on shaping instruction in universities throughout the world.

It is increasingly clear that media are most effective when used in combination with a variety of other instructional materials and techniques, each of which is chosen because of the particular contribution it can make to the total learning experience.[217]

We might assume that universities whose mammoth research programs have produced many of the new discoveries and applications of new principles would pioneer, whenever possible, the application of these new techniques to its own endeavors. The work of Richard Evans has led him to conclude the following:

> On the one hand the university is vitally concerned with exploring the unknown, with challenging every old principle and with finding new knowledge in its fields of specialization. On the other hand the university accepts in practice wholly the traditional methods or beliefs about teaching without any thought of improving itself.[218]

Supportive of this is the following finding from Evans' study of resistance to innovation:

> . . .that administrators and faculty members alike find it difficult, if not impossible, to evaluate the merits and demerits of a new idea prior to or even after its adoption. Hence, most, if not all, innovations are adopted on an experimental basis. Further, we believe that there is almost always a built-in mechanism for abandoning an innovation which, in itself, would almost certainly prevent any degree of institutionalization. In other words, it is not just the experimental nature of the original adoption but often the authority inherent in a group to terminate innovation that prevents total acceptance.[219]

Like other institutions of society universities have long-established codes of practice, norms and values which are firmly held and resistant to change. The money that society provides for the sustenance of its universities is largely due to the fact that they are deeply institutionalized systems and, as such, are closely tied not only to the economic order but to the culture and value system of the society as a whole.[220]

Society's support of the universities derives in part from their function as guardian and transmitter of the values of society.[221] Thus, if society goes through a period of flux, it would be reasonable to expect that the universities would, in their own way, respond and make whatever minimum changes necessary to retain support and maintain the stability of the institution. Along this same vein of thought Alvin Toffler comments:

> . . .if would be a mistake to assume that the present day educational system is unchanging. On the contrary, it is undergoing rapid change. But much of this change is no more than an attempt to refine the existent machinery, making it ever more efficient in pursuit of obsolete goals. The rest is a kind of Brownian motion, self-canceling, incoherent, directionless.[222]

Too, the transmission of a set of educational values on behalf of society is another function from which it derives stability within the society it serves. Some of these values include, for example:

> . . .an emphasis on the importance of personal contact between teacher and taught, on the freedom of the teacher to decide how best teaching should be carried out and to some extent what should be taught. Individuality, variety and creativity are all highly valued even at the expense of 'efficiency'.[223]

Too, education is labor-intensive which reflects the values of a system favoring a high proportion of teachers to the number of students taught.[224]

The egalitarian concern to extend educational opportunity to a broader segment of the college population which emerged around the turn of the century was catalyzed by the G.I. Bill following the Second World War. Though society has supported institutional expansion, the cost of doing so now appears to have resulted in pressure from society directed toward the universities to come up with less expensive instructional alternates in the future so as to meet social needs requiring the support of the egalitarian concern. Perhaps we can infer that if less costly ways of providing higher education are found then it will be feasible for adult education to be institutionalized within higher education. In the search for less expensive per capita higher education there may well be a result that will uphold a different set of educational values which will, in turn, be supportive of whatever educational delivery system that finally emerges capable of meeting changed objectives.

The socializing function which is additional to its economic function is another important role of the universities.

> It is not only concerned with training in useful skills, imparting information and certifying young adults, but also with helping people to fulfill themselves and to become acceptable members of society.[225]

There is relatively little scope for experimentation of a kind which might easily be interpreted as disadvantageous to the student. In a very real sense society may be saying that instruction should be altered to permit, not only more students of college age, but also the absorption of the adult student who can participate in the academic process only in the evening or on weekends, but to do so without increasing costs significantly. And, at the same time society does not seem to want to permit any significant experimentation with instructional techniques within the established system.

When we consider the "role" of the university, it would seem reasonable to say that "academic institutions are deliberately structured to resist precipitant change."[226]

> There is a diffusion of power and authority, and major educational policy decisions must work upward through an organizational maze. The possibilities for modifying and even blocking alterations exist at every level of the maze.[227]

In England it would appear that resistance to change both by the established universities and by society was recognized. Too, apparently Prime Minister Wilson had a political awareness, not shared with others, that a new university concept would be supported. Thus, in England, major academic change originated outside of the educational system and culminated in a new institution.

CHAPTER VI

Conclusion

The British Open University was developed to provide higher education through distance teaching to the adult working class. Instruction is based on a mix of media with home study as the foundation. Not only is teaching by television and radio an integral part of the Open University courses, but students have easy access to tutors and counselors through over 250 study centers scattered around Britain.

Along with these outward manifestations of change the Open University has the usual characteristics of a traditional English university--a royal charter, the right to grant degrees, administrators and professors of its own, and a campus. However, the latter is a non-teaching campus.

Most of the forces emanating from the Open University that may result in changes within higher education can be traced to the following:

1. The acceptance of adult working class students without academic prerequisites by the Open University vears sharply away from the elitest precedents of selectivity so characteristic of the traditional higher education system in England. However, its significance is largely limited to England since the United States has taken so strongly to the "open door" admission policy with special emphasis on those institutions within higher education

known as community colleges.

2. Traditional English undergraduate education focuses on a single field though the newer universities have modified the pattern. The Open University's requirements are designed to deter such narrow specialization and to encourage multidisciplinary study. The significance of this will be limited to England since such broad based undergraduate education has long been a hallmark of American higher education.
3. The students will now accumulate credits toward graduation in the American style. This may serve in England as a spur toward the near non-existent transferability of credit between their universities.
4. The establishment of a degree granting institution based almost entirely upon distance teaching is, in itself, a sharp break away from the traditional higher education institutional development pattern of the residential campus. The success of this approach may be expected to legitimatize this technique and lead to its acceptance by the higher education establishment of the two countries. The significance of the pending acceptance of distance teaching is the implication of the institutionalization of correspondence study, of instructional broadcasting, and of the working class adult as a full fledged member of the student body of higher education.
5. The application of the instructional development model

to curriculum design and assessment is of great significance. This team approach is a change of major importance and may have an influence on shaping instruction that is far reaching in its effect on both English and American higher education.

The following are intended to be representative of the kind of questions that the consideration of the application of distance teaching and the educational systems approach should stimulate from the leadership of any traditional institution of higher education seriously considering absorbing the working class adult into their student body. Too, this is a good time to suggest that educational literature has yet to reveal an active interest in exploring these questions or related questions other than in a superficial way. So as to make the questions as appropriate to real life as possible, they are phrased as though the President or Chief Administrative Officer of a traditional university in either England or the United States were making a tentative list of what must be considered in prior planning before undertaking the actual program.

1. What is the rationale for installing the systems-team approach to curriculum and course development? How can this be articulated so that there is an interface with the traditional way of pursuing this activity?

2. This above approach is used at the Open University and does alter the role of the professor from that of a

classroom teacher to a manager of learning wherever it may take place. How will the application of this approach to learning affect the following personnel matter?

a. How to set professors salaries?
b. How to rank professors?
c. How to rate the professional competance of professors?
d. How to evaluate a professor for tenure?

How does the Open University cope with the above concerns? Does collective bargaining have any implications that might affect the implementation of this change?

3. How does this above approach affect the student? Does this have any effect upon the assumption that prerequisites are essential and must be taken prior to permitting a student to enroll in the first year courses? Does this imply that the counseling and guidance program needs to be reoriented to better assist the students? What are the implications for students if the switch from an emphasis on teaching to an emphasis on learning is made?

4. How does the existent physical plant affect planning when considering this approach? Does the existent administrative and supporting staff need to be changed in any way? What additional staff are needed that are not currently a part of the institutions staff?

5. Will the source of institutional financial support accept distance teaching and the education of the working class adult as a viable objective worthy of adequate funding? How will other government institutions react toward the intent to serve the working adult who wants an education culminating in an undergraduate degree?

6. How is it possible to reorganize a traditional university so as to accommodate a currently excluded group and, at the same time, stay within the boundaries of the tenets by which the institution operates? Is it possible to explain new concepts in old ways so as to make them acceptable to society, the source of financial support, and the institutions of higher education?

7. What is it about institutions in general and, specifically, institutions of higher learning that holds them back from asking sincere and useful questions about themselves and seeking sincere and useful answers on behalf of their students?

At this point it would appear reasonable to conjecture that unless a core of academicians within the institutions of traditional higher education in England and America turn their attention to a consideration of these questions as an interrelated whole that professors will hold back from accepting any significant change in their role unless they can be assured, for instance, that their existent ranking, salary, and tenure will not be adversely affected. They will hold back from significant change unless current administrative practices can show the capability of effectively coping with changes in the traditional role of the professor. And, in our last example, professors will hold back unless the sources of institutional financial support show by appropriation their support of change in the role of the professor and in the absorption of the working class adult as a full fledged member of the student body of higher education.

It would seem worth repeating that a study of these as separate questions will miss the goal of the study. The questions must be studied for their interrelationships and effects on each other and on the institution as a whole. The results of the study will then rest on a foundation from which meaningful conclusions may be drawn.

Is it not conceivable that there does exist in the United States a few areas where a copy of the Open University might flourish? A study of higher education needs along such lines would be interesting.

It is probable that the following two factors would have the most significant effect upon the importation of an exact copy of the Open University into the United States.

1. England is a small country with a relatively high population density and only forty-four universities to provide higher education degrees. The scarcity of universities when coupled with the past restrictions on who

may be a student was more than sufficient to place the country in a financial quandary if the conclusions of the Robbins Report were to be implemented. The existent universities simply didn't have the physical space to absorb the number of students that the Robbins Report had estimated should be served. However, the United States with its highly decentralized system and a non-elitest policy of higher education did traditionally provide classroom space in its institutions of higher education. And, it did so for something like 50 per cent of the high school graduates as compared to roughly 5 per cent of England's high school graduates. In America it is probably correct to conjecture that if there is a "forgotten million" it is not the same or equivalent group that the British Open University was developed to serve. However, the potential of serving such a group, if it did exist, would not present the same kind of challenge to the existing system of higher education in the United States as it did in England for the above reasons.

2. It is important to be aware that England has approximately one university per million people while the United States has roughly one institution of higher education for every one hundred thousand people. Thus, in the United States there already exists a wide variety of higher education service outlets providing a widespread, though not uni-

versal, ease of availability for access to a higher education by the high school graduate. A need for an institution such as the Open University doesn't seem to exist with any degree of real vigor. Rather, it would seem to be a question of existing institutions of higher education in the United States really accepting the working adult as a legitimate student and, if necessary, restructuring the universities so as to be able to absorb these students as equals with the full-time day students.

What will probably happen is that American higher education will adapt and adopt the ideas, methods, motives, and materials of the Open University as extramunal efforts are expanded to meet the academic needs of the working class adult.

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